

## CLAIMS

What is claimed is:

1. A voice invoked self diagnostic method used in a device of a broadband communication network implemented with voice over Internet protocol, comprising the steps of:

5 a. invoking a main self diagnostic task by receiving a first input of a user;  
b. said main self diagnostic task providing a plurality of subtasks and outputting a corresponding selection menu in voice format;  
c. receiving a second input from a user responsive to the outputted menu;  
d. interpreting said second input and executing a selected subtask when said second input is interpreted as a valid selection which corresponds to the selected subtask; and  
10 e. outputting a report reflecting the result of executing said selected subtask in a voice format.

2. The method of claim 1, wherein said first and second inputs are in voice format.

3. The method of claim 1, wherein the invoking a main self diagnostic task is capable of being invoked by a voice input or a dial tone input as said first input.

4. The method of claim 1, wherein receiving a second input is capable of receiving by a voice input or a dial tone input.

5. The method of claim 2, wherein at least one valid access code is provided and wherein invoking said main self diagnostic task comprises:

a1. interpreting said first voice input; and  
a2. invoking said task only if said first input is interpreted as a valid access code.

6. The method of claim 2, wherein providing a plurality of subtasks further comprising:

- b1. categorizing said access code into a plurality of access-code groups; and
- b2. the accessibility of said subtasks depending on said access-code groups.

7. The method of claim 1, wherein said subtask is a multi-level which each level including a plurality of subtasks and their corresponding selection menu in voice format.

8. The method of claim 1, wherein invoking said subtasks further comprising the ability to download self diagnostic tasks, subtasks and their related files from other network devices through said broadband communication networks.

9. A device having voice invoked self diagnostic means in a broadband communication network implemented with voice over Internet protocol, comprising:

a connection for connecting a telephone set with said device and receives a user's input through said telephone set and sends voice output from said device to said user through said telephone set;

a memory storing a main self diagnostic task having a plurality of subtasks and its corresponding digital voice files;

a first processor is coupled to said connection and converts said user's input into digital format and output selected digital voice file to said user in voice format; and

a second processor is operatively coupled to said first processor, has the capacity of checking the validity of user's inputs, invoking said main self diagnostic task in response to a specified user's input, executing one of said subtasks in respond to said user's valid input, and reporting the result of executed subtask by selecting the corresponding digital voice file for said first processor to process.

10. A device having voice invoked self diagnostic means in a broadband communication network implemented with voice over Internet protocol, comprising:

means for connecting a telephone set with said device;

means for invoking a main self diagnostic task by a user's input through said telephone set;

said main self diagnostic task means for providing a plurality of subtasks and their corresponding selection menu which will be output to said user in voice format;

means for receiving a valid selection of said selection menu from said user;

means for interpreting said user selection and executing said selected subtask; and

means for voice reporting the result of executed subtask to said user.

11. The device of claim 6, wherein means for invoking by a user's input further comprising a user's voice input.

12. The device of claim 6, wherein means for invoking by a user's input further comprising a user's input by using keypad of said telephone set.

13. The device of claim 6, wherein said subtasks including download update tasks, subtasks and their related files from other network devices through said broadband communication network.

14. The device of claim 6, wherein said device is a communication gateway in a cable television network implemented with voice over Internet protocol.

15. The device of claim 6, wherein said device is a settop box in a cable television network implemented with voice over Internet protocol.